

IN THE CLAIMS

Please amend the claims as follows. For the Examiner's convenience, all of the claims whether amended or not are repeated herein below.

1. (Amended) A liquid-cooled casting die for a continuous billet casting comprising:

a form-giving casting die body (1) having at least one broad side wall with a pouring-surface for receiving molten metal and defining a meniscus region (3) and a cooling-surface in contact with a cooling bath, the pouring-surface and the cooling-surface defining a thickness,

wherein the casting die body (1) has a cooling zone in the meniscus region (3) with a heat flow rate of 5-40% greater than the heat flow rate in adjacent regions of the casting die body (1) .

2. (Amended) The casting die body (1) as recited in claim 1, wherein the form-giving casting die body is made of copper or a copper alloy.

3. (Amended) The casting die body (1) as recited in claim 1, further comprising a die cavity (2) defined by two broad-side walls situated opposite each other and two narrow-side walls, the narrow-side walls forming a cross-section of the die cavity; said broad-side walls connected to a base and forming the meniscus region (3).

4. (Amended) The casting die body (1) as recited in claim 3, wherein the cross-section of the die cavity (2) at a first end is greater than at a second end.

5. (Amended) The casting die body (1) as recited in claim 4, wherein the broad-side walls further define a funnel running from the first end to the second end.

6. (Amended) The casting die body (1) as recited in claim 1, wherein the cooling zone extends to cover an area that is at least 20% more than the meniscus region (3).

7. (Amended) The casting die body (1) as recited in claim 6, wherein the cooling zone extends to cover an area that is 30-60% more than the meniscus region (3).

8. Cancelled.

9. (Amended) The casting die body (1) as recited in claim 1, wherein the rate of heat flow in the cooling zone is 10-20% greater than the heat flow rate in adjacent regions of the casting die body (1).

10. (Amended) The casting die body (1) as recited in claim 1, wherein the thickness separating the pouring-surface from the cooling-surface is reduced in the meniscus region (3).

11. (Amended) The casting die body (1) as recited in claim 10, wherein the thickness is reduced by 1 to 6 mm in the meniscus region (3).

12. (Amended) The casting die body (1) as recited in claim 1, wherein the cooling surface comprises a plurality of cooling channels (4) having a depth (6), the depth of the cooling channels being at least 20% more (d2) in the meniscus region (3) than the adjacent areas (d1).

13. Cancelled.

14. (Amended) The casting die as recited in claim 12, wherein the cooling channels become gradually narrower in a transitional area (C).

REMARKS¹

Claims 1-7, 9-12, 14 and 15 are pending in the application and stand rejected. The Examiner objects to the drawings for allegedly failing to show the meniscus as described in the specification. The Examiner also objects to certain claims for containing informalities. Claims 1-7, 9-12, 14 and 15 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 1-7, 9-12, 14 and 15 also stand rejected as allegedly unpatentable over U.S. Patent No. 5,927,378 to Grove et al. ("Grove"); claims 1 and 9 stand rejected as allegedly unpatentable over U.S. Patent No. 5,797,444 to Villanueva et al. ("Villanueva"); claims 1-5 and 9 stand rejected as allegedly unpatentable over the English language translation of WO 97/43063 to Stagge et al. ("Stagge"); claims 1 and 9 stand rejected as allegedly unpatentable over U.S. Patent No. 4,658,884 to Euler et al. ("Euler"); claims 1 and 9 stand rejected as allegedly unpatentable over U.S. Patent No.

¹ As a preliminary matter, Applicant's Representative wishes to extend his gratitude to Examiner Kerns and Primary Examiner Lin for the courtesies extended during the interview held February 6, 2003.